

Valves

valves are used in Hydraulic systems as very high pressure hydraulic fluid to perform various functions. Huge amounts of energy can be transferred over short distances much more efficiently with hydraulic systems than with electrical systems, especially. when the desired motion is linear instead of rotational.

A basic hydraulic system will have a pump, a pressure control valve, one or more control valves, one or more pistons or hydraulic motors that transfer the hydraulic power into motion and a return system that collects the low-pressure hydraulic fluid and feeds it back to the pump for re-use. See an illustration of this system in Figure 1. This article focuses on the hydraulic control valve illustrated in

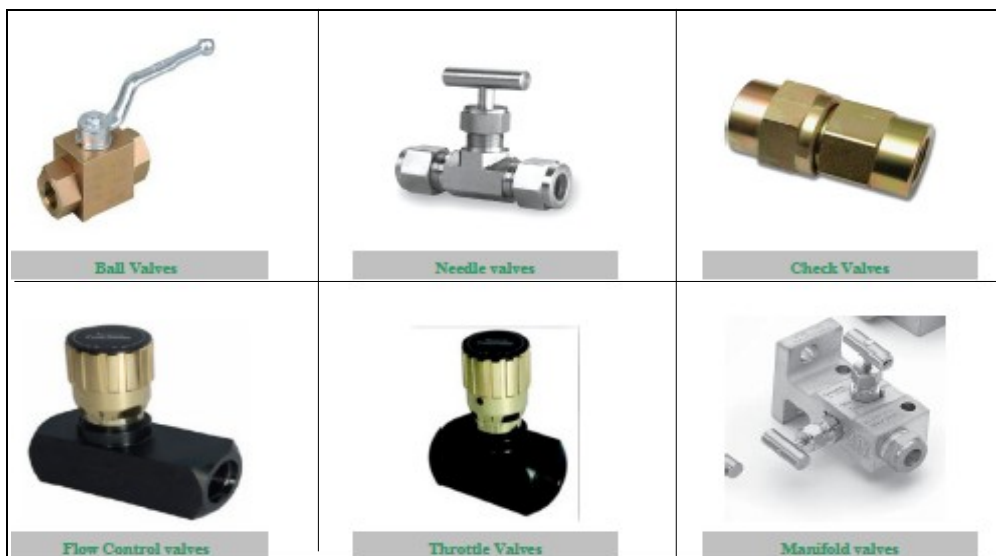
Hydraulic Valves

Ve-Lock Manufactures High Pressure Hydraulic Valves which is utilize to control Fluid Power & Motion in Piping Systems Hydraulic Valves are mainly in to various Types Like , Check valves, Ball Valves , Flow control valves , Needle valves & Manifold Valves. Hydraulic Valves can be use for High Working Pressure up to 10,000 psi (700 BAR). Hydraulic Valves are designed as per DIN /IS / SAE Standards as per its respective application in the Piping Systems.

Various Types of Hydraulic Valves - Ve-Lock Manufacturer

Hydraulic Valves	Standards	W.P. - BAR	Sizes	Application For
Ball Valves	DIN, IS, SAE	700	up to 2"	To Regulate High Flow, High Pressure & High Temp Flow
Needle Valves	DIN, IS, SAE	700	up to 2"	To Regulate High Flow & Pressure of Fluid At Lower Rate Also
Check Valves	DIN, IS, SAE	700	up to 2"	To Regulate Fluid Flow & Pressure in One direction only
Flow Control Valves	DIN, IS, SAE	700	up to 2"	To Regulate the needed amount of Fluid flow rate in One direction only
Throttle Valves	DIN, IS, SAE	700	up to 2"	To Regulate the needed amount of Fluid flow rate in the System
Manifold Valves	DIN, IS, SAE	700	up to 2"	To allow to Regulate the Flow & Pressure in Multi port type & in variety

Various Types of Hydraulic High Pressure Valves - Ve-Lock Manufacturer



Ball Valves - Hydraulic High Pressure Ball Valves

Ball valves are quarter-turn, straight through flow valves that have a round closure element with matching rounded seats that permit uniform sealing stress. Ball valves are used in situations where tight shut-off is required. The type of seat can vary with the valve pressure rating and materials of construction. Some valve seats are composed of single molded forms, while other seats with higher-pressure ratings often incorporate a trunnion design where each face of the ball is separately sealed. They are wide duty valves, able to transfer gases, liquids and liquids with suspended solids (slurries).

In general, ball valves offer many advantages when contrasted with other valve types. They provide superior ease of operation and can maintain and regulate high volume, high pressure and high temperature flow. Most ball valves offer rugged construction providing for a long service life, and a comparably low cost. Additionally, the design of the regulating element allows the valve to function without the complications of side loads, typical of butterfly or globe valves, and the valve design permits inspection and repair of seats and seals without removing the valves' body from the line.

Ball valves are available in a variety of body styles, including one-piece, two-piece, three-piece and flanged body

construction. Each of these ball valve forms offers specific advantages depending upon the requirements of the given application. Similarly, they are designed using a wide variety of materials, as required by their application.

Common ball valve materials include brass, bronze, copper, cast iron, ductile iron, stainless and other steel types, metal alloys and plastics including PVC and CPVC. It is best to consult with the manufacturer for the specific properties of the materials used in the valve, and how this relates to the applications that include type, concentration and temperature of the media being handled.

Ball valves are available in various types as below -

Needle Valves	Series		Sizes For Threads	Types of Threads Available	CLICK to Submit
Needle Valves with Female Threads	3000	6000	1/4" up to 2"	BSPP/ BSPT/ NPT/ UNF	Enquiry Form
Needle Valves with Male Threads	3000	6000	1/4" up to 2"	BSPP/ BSPT/ NPT/ UNF	Enquiry Form
Needle Valves with Metric Tube Od	3000	6000	6mm up to 42mm od	Metric Threads with Nut + Ferrule	Enquiry Form
Needle Valve with UNF Tube Od	3000	6000	1/4" od up to 2" od	UNF Threads with Nut + Ferrule	Enquiry Form
Needle Valve with Tube to Thread End	3000	6000	6mm up to 42mm od	Metric to BSPP Threads	Enquiry Form
Needle Valves with Flanges	3000	6000	1/4" NB up to 5" NB	SAF Flange / ERW Flange	Enquiry Form
Needle Valves with QRC End	3000	6000	1/4" up to 2"	BSPP/ BSPT/ NPT/ UNF	Enquiry Form

Ve-Lock Brand Make Ball valves are available in materials like - Steel , Stainless Steel , Brass , Monel , & various Alloy & Non Alloy steel Ve-Lock manufacturer Ball valves with Low pressure design up to 3000 Psi , High Pressure design up to 6000 psi & Very High Pressure Design up to 10000 psi (On Request Only)

Ball Valves - 2 Way High Pressure Ball Valves

Ball valves 2 way High Pressure Series used for Application in Hydraulic Systems where W.P. requirements are up to 6000 Psi & Test pressure up to 10,000 Psi. Ball valves controls Flow & Pressure of the fluid inside the Hydraulic systems which regulates & controlled liner & rotational movements of the applications. Ball valves are available in Steel , Stainless Steel , Brass Materials & can be applicable for Low pressure Application , High pressure Application & for water application also. Ball valves can be made in Cast body / Forged body & also in Solid bar stock body.

Ve-Lock manufactures 2 Way Ball Valves from Solid bar stock Materials & all parts details are as below.



MATERIALS :-

VALVE BODY - STEEL -PHOSPHATED / YELLOW CHROME PASSIVATED / TRIVALENT ZINC BLUE PASSIVATION

VALVE BODY - STAINLESS STEEL -304 / 316

VALVE BALL – SS 321 / 304 - ON REQUEST - SS 316 (AT EXTRA COST)

SEALING - BALL SEAT WITH PTFE

SEALING - WITH O RING -NBR - (VITON - O RING - ON REQUEST AT EXTRA COST ONLY)

HANDLE - MADE OUT OF ZINC CASTING

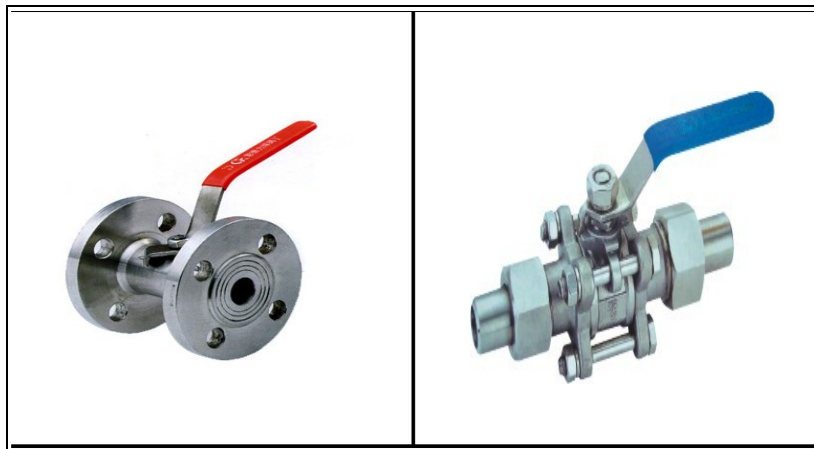
OPTIONAL - M.S. -POWDER COATING ON REQUEST ONLY

ALL OTHER PARTS ARE TRIVALENT ZINC WITH BLUE PASSIVATION

Ball Valves - 2 Way Flanged End

Ball valves with Flanges end are used for the connection where the Flange is require to connect with Ball Valves in the hydraulic systems for ease of connecting& disconnecting for easy maintenance & services. Various types of Flange connections are available with 2 Way ball valves as below Ball valves with Flanged end can be available with ERW flanges or SAE Flanges. Ball valves with Flanged end can be available with ERW flanges or SAE Flanges .Ball valves with ERW flanges class SCH 80 / SCH 100 / SCH 150 / SCH 300/ SCH 600/ SCH 900 are available & will be supply as per Buyers Requirements in Steel & stainless steel Ball Valves with SAE J 518 C Flanges are available in ISO 61 & 62 code as per 3000 series & 6000 series Working Pressure applications.& will be Supply as per Buyers Requirements in Steel & stainless steel

Needle Valves	Series		Sizes In NB	Sizes In OD in MM	CLICK to Submit
Ball Valves with Socket Weld Flange	3000	6000	1/4" NB up To 5" NB	15MM OD UP TO 140MM OD	Enquiry Form
Ball Valves with Butt weld Flange	3000	6000	1/4" NB up To 5" NB	15MM OD UP TO 140MM OD	Enquiry Form
Ball Valves with Blind Flange	3000	6000	1/4" NB up To 5" NB	15MM OD UP TO 140MM OD	Enquiry Form
Ball Valve with Weld Nipple Type	3000	6000	1/4" NB up To 5" NB	15MM OD UP TO 140MM OD	Enquiry Form
Ball Valve with Female Thread Flange Type	3000	6000	1/4" NB up To 5" NB	15MM OD UP TO 140MM OD	Enquiry Form
Ball Valves with ORFS Flange Type	3000	6000	1/4" NB up To 5" NB	15MM OD UP TO 140MM OD	Enquiry Form
Ball Valves with Male Thread Flange Type	3000	6000	1/4" NB up To 5" NB	15MM OD UP TO 140MM OD	Enquiry Form



MATERIALS :-

Valve Body - Steel / Stainless Steel / Brass

Valve Ball – SS 321 / 304 for Steel & for SS 316 for SS 316 Body

Sealing - Ball Seat with PTFE Duly Machined

Sealing - with O Ring -NBR - Viton O ring for High Temp. on Request only

Handle - Made out of Zinc Casting in Steel & S.S. valves both

Flange - Round Flanges as per ERW sizes / Square Flanges as per SAE J 518 C type

Flanges will be provided with Nut + bolts + washers at Extra cost.

All other Parts are trivalent White Plating

Ball Valves - Tube to Tube End - For Hydraulic Applications

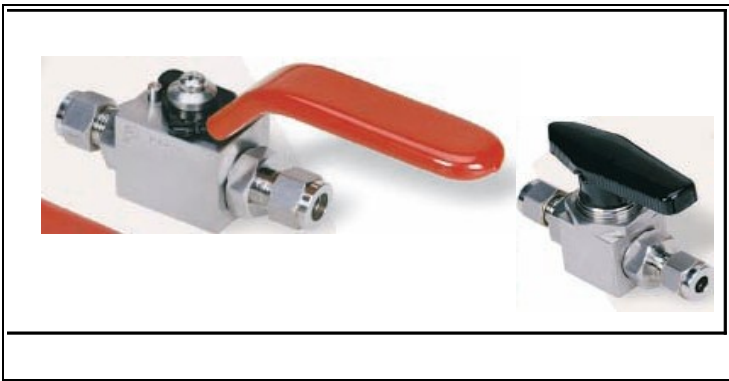
Ball valves tube to tube end are applicable for the systems where we have use Seamless tubes (Metric / Inch Od / Inch NB types) & to connect this tube end to this Ball valves we have to make Ball valves with Tube end & to Provide Nut & Ferrule Ring to get this tubes Grip with Ball Valves Body. Ball vales with Hydraulic tube end utilise in Paper Industry , Steel Plant manufacturer , Power Pack Manufacturer , Aircraft construction equipments, SPM,Process Machinerics , Hydraulic Power Booster Units.Ball Valves with tube to tube end connection are available in below types & sizes.

Ball Valves with Tube to Tube End	W.P.BAR	Series	Sizes For Threads	Types of Threads Available	CLICK to Submit
6 MM TO 15 MM OD	250	1/4" NB up To 5" NB	15MM OD UP TO 140MM OD	Metric Threads Both End	Enquiry Form
18 MM TO 22 MM OD	160	1/4" NB up To 5" NB	15MM OD UP TO 140MM OD	Metric Threads Both End	Enquiry Form
28 MM OD UP TO 42 MM OD	100	1/4" NB up To 5" NB	15MM OD UP TO 140MM OD	Metric Threads Both End	Enquiry Form
6 MM TO 12 MM OD	630	1/4" NB up To 5" NB	15MM OD UP TO 140MM OD	Metric Threads Both End	Enquiry Form
14 MM TO 25 MM OD	400	1/4" NB up To 5" NB	15MM OD UP TO 140MM OD	Metric Threads Both End	Enquiry Form
30 MM TO 38 MM OD	250	1/4" NB up To 5" NB	15MM OD UP TO 140MM OD	Metric Threads Both End	Enquiry Form

Ball Valves - Tube to Tube End - For Instrumentation Tube systems

Ball valves tube to tube end are applicable for the systems where we have use Seamless tubes (Metric / Inch Od / Inch NB types) & to connect this tube end to this Ball valves we have to make Ball valves with Tube end & to Provide Nut & Ferrule Ring to get this tubes Grip with Ball Valves Body.Ball valves with Instrument Tube end utilise for Oil & gas Industry , Marine Application, Petroleum Equipments ,Oil Refineries , Water Industry.Ball Valves with tube to tube end connection are available in below types & sizes.

Ball Valves with Tube to Tube End	W.P.BAR	Series	Sizes For Threads	Types of Threads Available	CLICK to Submit
1/8" OD UP TO 2" OD Tube Size	400	Heavy	1/8" UP TO 2"	UNF Threads Both End	Enquiry Form
6 MM TO 50 MM OD Tube Size	400	Heavy	6 MM UP TO 50.8 MM	UNF Threads Both End	Enquiry Form



Materials :-

- VALVE BODY - STAINLESS STEEL -304 / 316
- VALVE BALL - SS 321 / 304 - ON REQUEST - SS 316 (AT EXTRA COST)
- SEALING - BALL SEAT WITH PTFE
- SEALING - WITH O RING -NBR - (VITON - O RING - ON REQUEST AT EXTRA COST ONLY)
- HANDLE - MADE OUT OF STAINLESS STEEL
- OPTIONAL - M.S. -POWDER COATING ON REQUEST ONLY

Ball Valves - 3 Way High Pressure Ball Valves

3 way Ball Valves with T port Application -

Ball valves 3 way High Pressure Series used for Application in Hydraulic Systems where W.P. requirements are up to 6000 Psi & Test pressure up to 10,000 Psi. having one inline connection getting connected to two out let connection & require to deliver fluid at the same time / same flow / same Pressure.

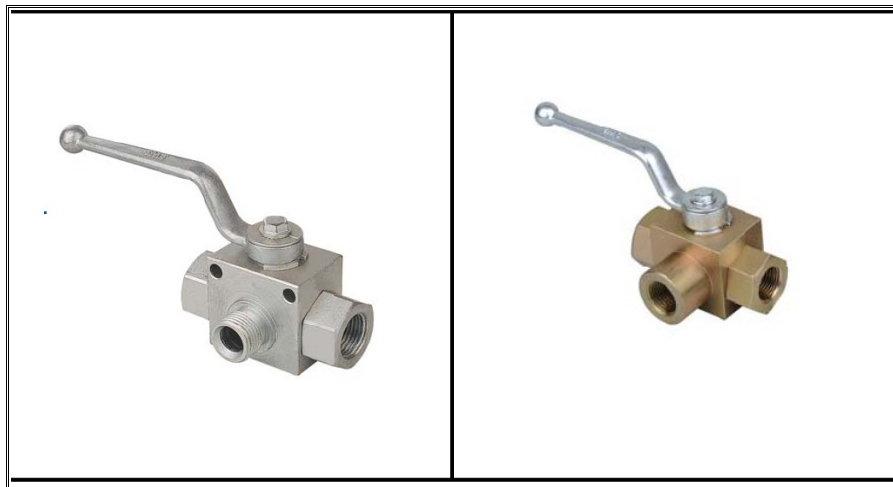
3 way Ball Valves with L port Application -

3 way Ball valves with L Port Application are connected to the system whereas End user require to control fluid Pressure & flow on either one side & then to next another side during ON / OFF position of handle manually .

3 way Ball valves controls Flow & Pressure of the fluid inside the Hydraulic systems which regulates & controlled liner & rotational movements of the applications.

3 way Ball valves are available in Steel , Stainless Steel , Brass Materials & can be applicable for Low pressure Application , High pressure Application & for water application also. Ball valves can be made in Cast body / Forged body & also in Solid bar stock body.

Ve-Lock manufactures 3 Way Ball Valves from Solid bar stock Materials & all parts details are as below.



Materials :-

VALVE BODY - STEEL -PHOSPHATISED / YELLOW CHROMATIZE / TRIVALENT BLUE ZINC

VALVE BODY - STAINLESS STEEL -304 / 316

VALVE BALL - SS 321 / 304 - ON REQUEST - SS 316 (AT EXTRA COST)

SEALING - BALL SEAT WITH PTFE

SEALING - WITH O RING -NBR - (VITON - O RING - ON REQUEST AT EXTRA COST ONLY)

HANDLE - MADE OUT OF ZINC CASTING

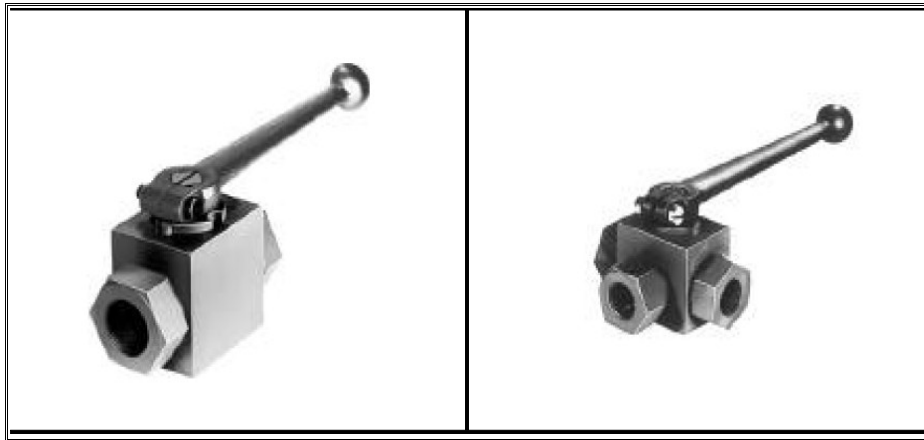
OPTIONAL - M.S. -POWDER COATING ON REQUEST ONLY

ALL OTHER PARTS ARE TRIVALENT ZINC WITH BLUE PASSIVATION

Ball Valves - 2 Way Socket Weld type , 3 way Socket Weld Type

Welding always Preferable to the piping systems to join tubes with valves where the end user has to avoid any leakage problem of fluids or gases at High Pressure. Ball valves with Socket weld type connection are used for welding to tube end with valves in the Oil & gas industry to lower the risk of High pressure & lower risk of leakage of viscous gases from the connections. Ball valves with Socket weld type having Square body Shape & socket hex adaptors screwed on both side of Body. Seamless Tubes of the same Size of Socket has to be weld at both end of the Ball valve Socket weld type.

Ball Valves with Socket Weld type	W.P. -BAR	SERIES	SIZES FOR THREADS	MOC OF BALL VALVE	CLICK to Submit
1/4" NB up to 5" NB	200	3000	1/4" NB to 5" NB	STEEL / STAINLESS STEEL	Enquiry Form
1/4" NB up to 3" NB	400	6000	1/4" NB to 3" NB	STEEL / STAINLESS STEEL	Enquiry Form



Materials :-

VALVE BODY - STEEL / STAINLESS STEEL / BRASS

VALVE BALL - SS 321 / 304 FOR STEEL & FOR SS316 FOR SS316 BODY

SEALING - BALL SEAT WITH PTFE DULY MACHINED

SEALING - WITH O RING -NBR - VITON O RING FOR HIGH TEMP. ON REQUEST ONLY

HANDLE - MADE OUT OF ZINC CASTING IN STEEL & S.S. VALVES BOTH

ALL OTHER PARTS ARE TRIVALENT WHITE PLATING